East Valley Astronomy Club

April 2000 www.eastvalleyastronomy.org Scottsdale, Arizona

President's Message

By Silvo Jaconelli

My first topic this month causes me much sadness – the passing away of Pierre Schwaar, one of the best amateur telescope makers in the world. Pierre recently succumbed to the effects of a brief illness. I have owned several Pierre mirrors, and they were of top quality. Pierre will be missed, both as a friend and as a fellow astronomy enthusiast.

I would like to thank Tom Mozdzen for getting the March newsletter out at such short notice – Martin was not able to do this and Tom has agreed to it. Articles for publication should continue to be sent Martin at mabastro@aol.com. It might help if you were to copy me also at s.jaconelli@onsemi.com . Greg Myers has also stepped up and agreed to help Martin whenever possible as the role of backup Editor. I want to express my thanks to Greg for offering to help out in this challenging function. And to conclude this particular topic, please consider opting for electronic receipt of your monthly newsletter as this takes a considerable strain off the dedicated club members who volunteer their time and effort to assemble and distribute the newsletter to you.

I hope that the membership liked the refinements to the March newsletter – we added a "technical tips" section and a "Q and A" section; we are keen to improve the quality of the Newsletter, but it does require the participation of the membership at large, so please keep sending in your articles for publication.

Let me take a moment to express my thanks to Don Jones for his help on the Board this year; Don will be leaving us a little later to take up a teaching position in California; Don tells me that he will return to the Valley at the end of the next semester, so there is still hope for us that like to look through his 30" Obsession! Thanks, Don, for the help.

Well, yet another star party has been clouded out – this time the March 4 deep sky party; this must be some kind of a record for weather-impacted viewing!!! As a consolation, there was a spectacular display of sunspots the week before the March 4 star party which those members with solar filters must have enjoyed. And I do know that some members made special plans to go out observing on Friday March 3 knowing that there was a storm system moving in on the Saturday; I guess that the moral of the story here is to go out observing whenever the opportunity presents itself because you never know how the weather will turn out.

EVAC & Other Events: 2000

	New Moon	Meet	Local	Deep Sky	Other
Feb	5th	9th	26th	5th	
Mar	6th	8th	25th	4th	
Apr	4th	12th	29th	1st	Messier Marathon
May	3th	10th	27th	6th	5/13 Kitt Peak Tour
Jun	2nd	14th	24th	3rd	6-3 -6/10 Grand Canyon Star Party
July	1st, 30th	12th	22nd	1st, 29th	Universe 2000
Aug	29th	9th	19th	26th	Stellafane
Sep	27th	13th	23rd	30th	N. AZ SP. Enchanted Skies Star Party Socorro, NM September 28-October 1
Oct	27th	11th	21st	NA	10/7 Lowell Tour 10/21 EVAC Picnic 10/28 All-AZ Star Party
Nov	25th	8th	18th	NA	Elections
Dec	25th	13th	16th	23rd	Christmas Party

Vice President's Comments

By Chuck Crawford

GUEST SPEAKER

Our guest speaker for the April Meeting will be Rogier Windhorst, Associate Chair and Professor of Astronomy at Arizona State University. His interests rest in radio astronomy, cosmology, galaxy formation and evolution, protogalaxies and astronomical instrumentation. The exact title of his talk has not been established as of this printing pending his return from observing runs but most likely will involve cosmology and/or galaxy formation and evolution.

PENDING ANY LAST MINUTE CHANGES

Our upcoming speaker schedule is complete throughout the year as follows with one exception. Hopefully we will have Carolyn Shoemaker as our guest either in September or October if her plans work out. On the date she would not be available our annual show and tell and swap meet will occur. Beyond that the following completes the year.

May 10 - Jeff Medkeff
June 14 - Chris Schur, EVAC
July 12 - Steve Odewahn, ASU Astronomer
August 9 - David Burnstein, ASU Astronomer
November 8 - Steve Coe, Saguaro Club
December 13 - Joe Orman and Rick Scott, EVAC

Topics to be announced

KITT PEAK TOUR

Sold out and ready for liftoff on May 13. Congratulations on the turnout!

Does anyone have any suggestions as to a place that can handle some 60 persons for lunch and dinner either outside Tucson or within? If so please contact me with a name and how to contact them. I am not real familiar with Tucson eateries and don't really want to leave it up to the bus driver to just "drop in" someplace. Perhaps a cafeteria? 480-985-8824 or astroc@mindspring.com

LOWELL AND METEOR CRATER TOUR

Is scheduled and bus chartered for October 7. Signups will begin at the May meeting with a July deadline of 7/12.

VERY LARGE ARRAY

Word from Dr. Finley of NRAO is that a tour is not possible in June due to symposiums scheduled, which will not allow for any special tours. He did suggest that members wishing to attend The Enchanted Skies Star Party in Socorro, NM September 28 - October 1 would receive a special tour of the VLA. Also during that time there will be lectures by amateur and professional astronomers for both beginners and experienced, nighttime observing, observing from NM Tech's Etscorn Campus Observatory, lots of door prizes, vendor displays, tours of other scientific centers of the Rio Grande Research Corridor and the famous Chuck Wagon Dinner and Dark-Dark Sky Night on the Pound Ranch in Socorro county. For further information the web sight is www.socorro-nm.com/starparty/html . Prices and reservations information will be forthcoming.

Otherwise we will have to make future arrangements for a group visit. So this tour is on hold at the moment pending another date selection.

DINNER WITH OUR GUEST SPEAKER

Pre meeting dinner is again at the Black-eyed Pea in Scottsdale (Indian Bend Road across from the Pavilions fountain). We are going to suggest 5:30 pm as the starting time from now on so there is enough time to avoid rushing from dinner to the meeting. While not necessary to make reservations (already established for the year) I would appreciate it if you would let me know of your attendance so I can inform the manager as to how many to expect by the Tuesday before each meeting date. 480-985-8824 or leave message. Thanks!

You may also sign up at each meeting for the next time. We have had a steady 6-10 participants that has been an enjoyable experience. More are welcome!

EVAC & SAC Picnic

By Chuck Crawford

The club picnic will be October 21 at Lost Dutchman Park providing we can grill there. Does anyone know if we can? DON WRIGLEY? ANYONE? Let me know ASAP.

The Saguaro club will be joining us in a joint picnic venture. We will have it on the east side this year and the west side next year.

It was decided by Steve Coe and myself that those in attendance should bring their scopes as this offers a fairly dark site except west and we are in the last quarter so we can partake of the goodies and do some observing too! The thinking was that it would be too light polluted in the city and being the last quarter observing time might be fun also.

If there are no objections I will announce this as a set date. Grilling question answered that is!

Member Q & A

By Silvio Jaconelli

Q. Should I get a laser collimator for my Newtonian telescope?

A. The answer depends in some part on the focal ratio of the telescope.

For short ratio telescopes – those lower than f/6 – a laser collimator would be very useful, but it is still necessary to understand how the focuser, secondary mirror, and primary mirror interact with each other.

For example, if the secondary mirror is either too close to the front of the tube, or too close to the primary mirror, a laser collimator will not help unless you 'center dot' the secondary mirror AND you are able to see this dot on the mirror; in this regard, some people have actually drilled a 'peep hole' in the tube so that they can observe where the laser beam strikes the secondary (if you have a truss set up, then drilling holes is not an issue – you can easily see the face of the secondary).

Moreover, you still need to understand the three main secondary mirror adjustments required - axial adjustment, tilt adjustment and rotational adjustment, otherwise you will not really know what needs to be done to bring the telescope into collimation. To summarize, a laser collimator is a fast way to collimate the telescope if you already have some basic knowledge of what it is you are trying to do. And the best way to get this knowledge is to practice collimation on those Moon filled periods of the month when you have some extra time on your hands!!!!

Now for the contentious part of the response! For focal ratios of f/6 and higher, I personally do not think that a laser collimator is a great asset. It will definitely help to get the collimation very accurate, but the accuracy improvement would not be as apparent as it would for a short focal ratio telescope – short focal ratio telescopes really demand accurate collimation. For the longer focal ratios, a center dot on the primary and a 35mm film canister with a tiny hole in the center works very well – just make sure that all the circles look concentric and that will get you close enough.

Q. Why is it that I can see crisp images of sunspots on some days, but on other days I do not get good images?

A. Welcome to the world of seeing! 'Seeing' refers to the stability of the atmosphere, and this evidences itself in the daytime as well as at night. The best time to view sunspots tends to be in the early part of the morning when the air is calm and before the heating of the atmosphere – and the attendant roiling of the air – has a chance to occur.

And by the same token, the same effect is apparent around twilight in the evenings for lunar and planetary viewing – there is a calm period around then when the air is neither heating up nor cooling down when fine steady images can be seen through a telescope.

So the same tips to enhance night time viewing – keep away from roof tops, avoid windy conditions, allow tour telescope to reach thermal equilibrium, etc. – apply just as much to daytime solar viewing as it does to night viewing.

Technical Tip of the Month

By Silvio Jaconelli

Many Dobsonian owners find that the motions of their telescopes are too stiff. It takes a lot of effort to get the telescope to move, and when the telescope eventually does start to move, then it moves too far and too fast. What is one to do?

Let's start with the altitude (up and down) motion. The first thing to look at here is the smoothness of the trunions (the circular appendages at the side of the optical tube) – make sure that these are smooth. If they are made of wood, then rubbing linseed oil or spraying silicon on them might work.; but make sure that they are smooth. If this does not achieve the required degree of smoothness, then look at where the friction pads are placed on which the trunions rest – by moving these closer to each other, easier motions are obtained. Now the reverse is also true – if the motion is too EASY, then roughing up the trunions or moving the pads further apart will stiffen the movement.

None of this is intended to address obvious balancing problems; balancing problems can be due to misplacement of the trunions (rather rare) or to changes in the elevation of the telescope tube, or to switching to different eyepieces. If the telescope is out of balance, then Velcro strips and weight bags will work well. Now let's look at the azimuth (sideways) movement. There are a couple of things that can be done here. Firstly, moving the friction pads closer to the center of the baseboard will make the motion easier, while moving the pads further out will stiffen the movement. Also, freeing up the movement can be further enhanced by placing a further larger pad around the pivot bolt (this will require drilling a hole in the pad through which the center bolt will pass).

Experiment with these ideas until you find what works for you.

If it's clear...

by Fulton Wright, Jr.
Prescott Astronomy Club for April 2000

Shamelessly stolen information from Sky & Telescope magazine, Astronomy magazine, and anywhere else I can find data.

Jupiter is getting hard to observe these days. With a medium sized telescope look low in the west about 7:30 PM. See if you can catch Io's shadow on April 6th or Europa's shadow near the red spot on April 9th. Even a small telescope should have an easy time showing all four satellites on the west side of (and fairly close to) Jupiter on April 17.

On Thursday, April 6, at about 7:30 PM you can see 3 planets and the moon near each other. With your unaided eye or binoculars look 15 degrees above the west horizon for Jupiter (mag -2) and Mars (mag 1.5) about a degree apart. The Moon (thin crescent) and Saturn (mag 2) are 5 degrees higher and to the left.

On Wednesday, April 12, after sunset (about 7 PM) you can see Rupes Recta (the Straight Wall) on the Moon. With a small telescope look 70 degrees above the southeast horizon for the Moon. Look along the terminator, about 1/3 of the way from the South Pole to the north pole, for a straight, thin, dark shadow cast by this rather gradual (only 7 degree slope) escarpment. As the evening progresses and the sun rises at this spot on the moon, the shadow will get even thinner.

On Friday, April 28, at about 5:15 AM you can see Venus (mag -4) and Mercury (mag -1) rise together. With binoculars or a small telescope look a little north of east for the pair, 1/3 of a degree apart. This will be a difficult observation because the sun rises only half an hour later.

Pierre

by Marcia Collette

He chased the moon for light's
first glimmer reflected from
another beginning.
He captured her beauty over
city glow, like a beacon aloft
softened forms below.
He chased the sun over earth
and sea to witness our star cast
suddenly to sleep.
With his tussled hair and stories to
share, I wish I'd known him better.
As the softness of the evening
rolls forth the twilight hours, we
notice now a bit more shine as he
finds his way back to the stars.

Test Your Knowledge

By Chuck Crawford

This is something that may become a part of the newsletter in the future if the membership enjoys testing their knowledge. This is sort of an Astronomy quiz of varying subject matter from the easy to the difficult. Answers will be given at each meeting. So test yourself and see if you can get them correct. No cheating now! (Smile)

1. The highest temperature in the solar atmosphere is found in
   a. the photosphere
   b. a sunspot
   c. chromosphere
   d. the corona

2. The chemical element found in the greatest abundance in all normal stars is
   a. carbon
   b. helium
   c. hydrogen
   d. iron

3. A device that measures the brightness and color of an individual star is called
   a. an interferometer
   b. a camera
   c. a photometer
   d. a spectrograph

4. The main reason the night sky is dark is that the universe is
   a. static
   b. infinite in size
   c. finite in age
   d. expanding

5. One site of very active star formation is
   a. Crab Nebula
   b. Orion Nebula
   c. Cygnus X-1
   d. Nova Cygni 1975

Bonus: Hypothetical ripples in space-time produced by supernova events or orbiting massive stars, which propagate outward at the speed of light, are referred to as
   a. gravity waves
   b. neutron stars
   c. black holes
   d. gravitational red shifts

Slides Needed for Club Show

Attention all EVAC members who shoot slides! Joe Orman and Rick Scott invite you to submit your slides for a show they will be putting together, to be shown at the December 13 EVAC meeting. The show will be similar to the one they did in 1998, with multiple projectors and a synchronized musical soundtrack.

Slides can be astronomical or general sky photos, or pictures of telescopes, observatories, star parties and club members. Slides are needed by the September meeting at the latest to give us time to put the show together, but the sooner the better. Each contributor will get screen credit in the show. All slides will be handled with utmost care and returned promptly after the show. With enough contributions we will have a show that the whole club can be proud of!

Please bring your slides to a club meeting or contact:

Joe Orman
(480) 812-9424
Joe.Orman@motorola.com

Rick Scott
(480) 821-5721
rmscott@home.com

For Sale

Rich Jacobs has the following items for sale:

Santa Barbara Instrument Group ST-7 CCD, Anti-blooming, complete with power supply, carrying case, cables, software, manuals. $2000.

Losmandy GM-8 mount, made for Celestron, on light aluminum tripod, complete with optical encoders and digital setting circles, tripod tray. $1000

Please email him at Rjacobs@azastronomy.com for more information.

EVAC Treasury Report

By Dee Ann Zacher

			1996	1997	1998	1999
MEMBERSHIP			123	140	150	170
INCOME						
	Membership Dues		1870	2221	2330	3633
	Paid Public Star Parties		430	650		75
	Net Profit on Raffle					80
	Total		**2300**	**2871**	**2330**	**3788**
EXPENDITURES						
	Newsletters, postage, etc		1205	977	1656	2180
	Speakers		450	500	500	750
	Picnic			166	230	230
	All AZ Star Party Expenses			50	100	175
	Incorporation/Land use fees				88	118
	Xmas party				130	0
	Meeting refreshments				220	164
	Adopt-a-highway brunches				170	149
	Board Meeting pizzas				141	130
	User-friendly web address					70
	Misc					52
	Contras -	Clothing				85
		Mags				-2
		Badges				-34
		Calendars				57
		Total	**1655**	**1693**	**3235**	**4124**
SURPLUS/DEFICIT			**645**	**1178**	**-905**	**-336**
ENDING FUNDS		**3435**	**4080**	**5258**	**4353**	**4017**

East Valley Astronomy Club

EVAC on the Internet

EVAC Homepage: www.eastvalleyastronomy.org

E-mail Mailing Lists

EVAC-mls is a mailing list for club announcements and quick notification of astronomical events.
To join, send E-mail with the "Subject: subscribe" to EVAC-mls-request@psiaz.com

EVAC-Board is for EVAC business. All club members are welcome to participate.
To join, send E-mail with the "Subject: subscribe" to EVAC-Board-request@psiaz.com

AZ-Observing is a fairly general mailing list about observing in Arizona. Included are star party information, who is going, as well as the latest observations and astronomical events.
To join, send E-mail with the "Subject: subscribe" to AZ-Observing-request@psiaz.com

Although EVAC is a private club not open to the public, we do encourage potential new members to initially join us at our club meetings and/or star parties to help them determine the suitability of the club to meet their needs.

East Valley Astronomy Club

Membership Form

Please complete the information on the form and return to the address below along with a check payable to EVAC for the appropriate dues amount. Allow 3 mos. Lead time for magazine renewals. See below:

Dee Ann Zacher
EVAC Treasurer
P.O. Box 2202
Mesa, AZ 85214-2202
(480) 545-8769

Enclosed:
____$20 Annual
____$10 July—Dec
____$29.95 *Sky & Telescope*
____$29 *Astronomy Magazine*
____$ 7 EVAC Nametag
____ Total

Circle: New Member Renewal

Please Print (indicate confidential information)

Name _____

Address _____

Phone _____

Email _____

URL *http://* _____

Newsletter *Mailed or Electronically Delivered?* _____

How did you hear about EVAC? _____

Major areas of interest (circle): General observing; Lunar/Planetary; Deep Sky; Telescope making; Astrophotography; CCD/Computer; Archaeoastronomy; Other: _____

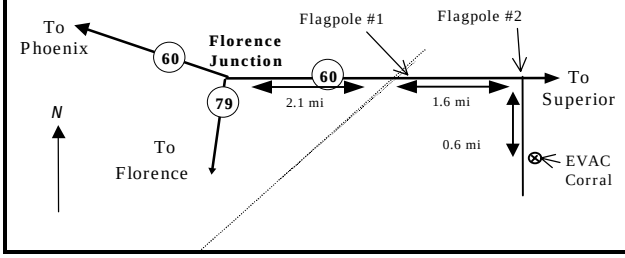
EVAC Star Parties

Local Star Party: Florence Junction Site

General Information: The Florence Junction site is the official site for the East Valley Astronomy Club's Local Star Party, typically held on the Saturday closest to Last Quarter Moon. Florence Junction offers reasonably dark skies within a short drive of most east Valley locations. (Report gunfire or illegal activity: 800/352-3796; Land use permit number: 26-104528.)

Location: N 33° 14' 40" W 111° 20' 16"

How To Get There: Take US 60 east to Florence Junction. Go past Florence Junction. 2.1 mi past FJ are railroad tracks, and on the right will be a flagpole. Do not turn there. Continue on for another 1.6 miles until you find the second flagpole on the right. This is your turn. Turn right, and continue on the dirt road for 0.6 miles. The corral is on the left right before a gas-line sign.

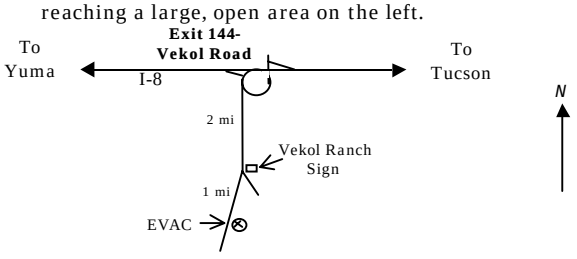


Deep Sky Star Party: Vekol Road Site

General Information: The Vekol Road site is the official site for the East Valley Astronomy Club's Deep Sky Star Party, typically held on the Saturday closest to New Moon. Vekol Road offers dark skies despite prominent skyglow from Phoenix to the north. The site is within 1½hours drive time from most east Valley locations.

Location: N 32° 47' 55" W 112° 15' 15"

How to Get There: Take I-10 south and exit onto Maricopa Road. Continue through the town of Maricopa to SR 84, about 25 miles from I-10. Turn right on SR 84, after about 5 miles the road merges with I-8. Continue west and exit I-8 at Vekol Road—Exit 144. Turn left and cross the highway overpass. Before looping back onto I-8 take the dirt road to the left. Go south for 2 miles. At the Vekol Ranch sign bear right and continue south for another mile until reaching a large, open area on the left.



EVAC Officers

PRESIDENT
Silvio Jaconelli
(480) 926-8529

VICE-PRESIDENT
Chuck Crawford
(480) 735-8042

TREASURER
Dee Ann Zacher
(480) 545-8769

SECRETARY
Tom Mozdzen
(480) 497-5703

PROPERTIES
Rick Scott
(480) 821-5721

East Valley Astronomy Club—2000

Scottsdale, Arizona
EVAC Homepage—http://www.eastvalleyastronomy.org

Membership & Subscriptions: $20 per year, renewed in December. Reduced rates to *Sky & Telescope* and *Astronomy* available. Contact Dee Ann Zacher.
Email—dazacher@uswest.net

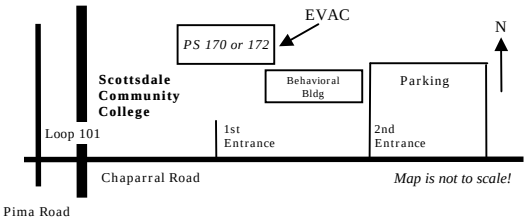
Club Meetings: Second Wednesday of every month at the Scottsdale Community College, 7:30 pm. Normally Room PS 170 or 172 in the Physical Sciences Building. See map below.

Newsletter and Address Changes: Contact Martin Bonadio 921 North Kingston Street, Gilbert, AZ 85233, 480/926-4900. mabastro@aol.com. Contributions may be edited. The Newsletter is mailed out the week before the monthly Club meeting. An electronic version available in Adobe PDF format in lieu of a printed copy. Please contact Martin with delivery your preferences.

EVAC Library: The library contains a good assortment of books, downloaded imagery, and helpful guides. Contact Rick Scott for complete details, 480-821-5721

Book Discounts: Great savings through Kalmbach and Sky Publishing. Contact Dee Ann Zacher, club treasurer.

EVAC Party Line: Let other members know in advance if you plan to attend a scheduled observing session. Contact Stan Ferris, 480/831-7307.



East Valley Astronomy Club

Martin Bonadio, Editor
921 North Kingston St. Gilbert, AZ 85233

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Wednesday, April 12th, 2000